DETAILED ACTION

1. This office action is in response to the applicant's amendment after non-final rejection dated on 04/10/2008.

Response to the Amendment

2. In view of the applicant's amendment by amending the objected and rejected claims, the examiner withdraws the claim objections and 112, 2nd paragraph rejections set forth in the previous office action. The amended claims are in condition for allowance.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and or additions be acceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no latter than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Leonid D. Thenor on May 08 2008.

4. The application has been amended as follows:

As per claim 3:

Lines 7, 12 and 16, replace the phrase "error-correction coding" with ---error-correction code---

As per claim 4:

Line 5, replace the phrase "error-correction coding" with ---error-correction code---

As per claim 5:

Line 5, replace the phrase “the soft-output code information” with ---a soft-output code information---.

Line 15, replace the phrase “executes an error-correction” with ---executes an error-correction code---

As per claim 6:

Line 3, replace the phrase “executes said error-correction” with ---executes said error-correction code---.

As per claim 7:

Line 2, replace the phrase “the error-correction” with ---the error-correction code---.

As per claim 16:

Line 4, replace the phrase "that can be corrected" with ---that is corrected--.

As per claim 17:

Line 4, replace the phrase "that can be corrected" with ---that is corrected--.

As per claim 19:

Line 6, replace the phrase “the inverted permutation circuit” with ---an inverting permutation circuit---.

As per claim 20:

Line 4, replace the phrase “by the other parity decoder” with ---by another parity decoder---.

Line 5, replace the phrase “the inverted permutation circuit” with --- the inverting permutation circuit---.

Line 6, replace the phrase "executes said error-correction" with ---executes said error-correction code---.

Line 7, replace the phrase "the input first soft-output code sequence" with ---the input of the first soft-output code sequence---.

Line 8, replace the phrase "the input first soft-output code information" with ---the input of the first soft-output code information---.

Examiner's statement for reason for allowance

5. Claims **1-7 and 14-20** have been allowed.

The following is an examiner's statement for allowance:

As per claim 1:

The prior art of record, Hittori et al. (U.S. PN: 6,798,593 teach or disclosed a method and apparatus for reproducing data recorded on a recording medium and a method and apparatus for recording and/or reproducing data for a recording medium (see col. 1, lines 9-14). Hattori further teaches that for recording signals on these recording mediums, physical processing needs to be performed on the recording mediums, such as by controlling the direction of magnetization by a write head for a recording medium of the magnetic recording system, or by forming pits of lengths corresponding to signals by a stamper for a recording medium of the optical recording system and in order to permit the normal operation of amplitude control (amplitude gain control) of readout signals or clock reproduction (data timing recovery) on the reproducing side reading out the signals recorded on the recording medium, the signal recording side for recording signals on a recording medium routinely uses a system of

modulation encoding the signal in a preset fashion to record the resulting modulation-coded signal (see col. 1, lines 22-35).

However, the prior art taken singly or in combination fail to teach, anticipate, suggest, or render obvious *a recording medium to which information is recorded to a data sector by a predetermined format said format on the medium comprising a preamble including additional information for the control of recorded position information, amplitude gain control and data timing recovery, an information code and a first redundant code composed of plural code sequence blocks used for hard-decision type data error correction, which are composed of a plural code blocks; a second redundant code used for soft-decision type error correction for each code sequence block, which is inserted for predetermined positions in each code block"* Consequently, claim 1 is allowed over the prior art.

Claim **2,** which is/are directly or indirectly dependent/s of claim 1 is also allowable over the prior art of record.

As per claim 3:

The prior art of record, Hittori et al. (U.S. PN: 6,798,593) teach or disclosed a method and apparatus for reproducing data recorded on a recording medium and a method and apparatus for recording and/or reproducing data for a recording medium (see col. 1, lines 9-14). Hattori further teaches that for recording signals on these recording mediums, physical processing needs to be performed on the recording mediums, such as by controlling the direction of magnetization by a write head for a

recording medium of the magnetic recording system, or by forming pits of lengths corresponding to signals by a stamper for a recording medium of the optical recording system and in order to permit the normal operation of amplitude control (amplitude gain control) of readout signals or clock reproduction (data timing recovery) on the reproducing side reading out the signals recorded on the recording medium, the signal recording side for recording signals on a recording medium routinely uses a system of modulation encoding the signal in a preset fashion to record the resulting modulation-coded signal (see col. 1, lines 22-35).

However, the prior art taken singly or in combination fail to teach, anticipate, suggest, or render obvious "*a first encoding circuit that applies first error-correction coding to the information code sequence by the predetermined unit, and adds a first redundant code sequence to said coded information code sequence, thereby generates an error-correction code sequence, a concatenated encoder that divides the error-correction code sequence output from the first encoding circuit into continuous plural code sequence blocks having predetermined length, stores each code sequence block, executes second error-correction code for each code sequence block, and generates a second redundant code sequence with referring to the contents of each code sequence block, and a code switch that outputs the plural code sequence blocks and the second redundant code sequence alternatively, thereby generating the information code sequence comprised of the plural code sequence*

blocks, wherein the second redundant code is inserted in each code sequence block".

Consequently, claim 3 is allowed over the prior art.

Claim **4-7 and 14-20,** which is/are directly or indirectly dependent/s of claim 3 are also allowable over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. The prior art of record and not relied upon is considered pertinent to applicant's disclosure. **Additional pertinent prior arts are included herein for Applicant's review.**

The prior art, Morley et al. (U.S. PN: 6,631,485) teaches a method and apparatus in which the track checksum provides considerably more reliable checking of miscorrections in one aspect this invention provides apparatus for storing a stream of data records on magnetic media, said apparatus including: group formatting means for grouping said data records into groups of data bytes; sub-group processing means for dividing each of said groups into subgroups, wherein each subgroup comprises data bytes corresponding to one or more data tracks; track checksum calculating means for calculating one or more checksums for the or each data track, means for transforming each subgroup into at least one respective array, each corresponding to a data track, first error correction coding encoding means for encoding columns of the or each array

to provide first (C1) ECC codewords comprising data bytes and parity bytes; second error correction coding encoding means for encoding rows of the or each array to provide second (C2) ECC codewords comprising data bytes and parity bytes; wherein said track checksum calculating means calculates a respective track checksum for the or each track such that, on decoding of said ECC codewords, a miscorrected codeword in which the miscorrections are in the data bytes only has no more than a substantially random probability of providing the same contribution to the corresponding track checksum as the corresponding original codeword (see col. 2, lines 61-67 to col. 3, lines 1-23).

The prior art, Ueda et al. (U.S. PN: 7,369,746) teaches a recording system of a digital VTR of an embodiment of the invention. In the drawing, reference numeral 50 denotes an input terminal for receiving digital video and audio signals in the form of a bit stream, 52 denotes a packet detector for detecting packets of the video and audio signals from the bit stream that is received, 54 denotes a first memory for storing the bit stream, and 56 denotes an intra detector for detecting intra-encoded data in the bit stream, 58 denotes a second memory for storing the intra-encoded data output from the intra detector 56. Reference numeral 60 denotes a first error correction encoder for appending error correction codes to the data output from the second memory 58. Reference numeral 62 denotes a data synthesizer for synthesizing the data output from the first memory 54 and the first error correction encoder 60 to form a recording bit stream and 64 denotes a second error correction encoder for appending error correction codes stipulated by the SD standard, to the recording bit stream output from the data

synthesizer 62. Reference numeral 66 denotes a recording amplifier, 68 denotes a rotary drum and 70a and 70b denote rotary heads (see col. 20, lines 31-51).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Esaw T. Abraham whose telephone number is (571) 272-3812. The examiner can normally be reached on M-F 8am-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on (571) 272-6962. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EA

/Esaw T Abraham/
Examiner, Art Unit 2112
05/08/08